

SUMMARY

The effect of bicarbonated sodium chloride solution on haematological and biochemical parameters in dehydrated dogs

The purpose of this study was to compare the effect of lactated Ringer's (LR) and bicarbonated sodium chloride (BNaCl) solutions on haematological and biochemical parameters in dehydrated dogs. For this purpose, 14 healthy dogs aged 2–4 months were used. The dogs were randomly allocated to LR group ($n = 7$) or BNaCl group ($n = 7$). Dehydration was induced by withholding food and water deprivation for 48 hr. Dehydrated dogs in each group were received 50 ml/kg of LR or BNaCl at a flow rate of 15 ml/kg/min. Laboratory analyses were performed at baseline (before dehydration), after the end of fasting for 48 hr, immediately at the end of infusion and post infusion 30., 60., and 120. minuten. Fasting for 48 hr induced significant reductions in body weight ($6,4 \pm 0,8$ %) and plasma potassium concentration while haematocrit (Hct), haemoglobin (Hb), plasma total protein (TP), sodium and lactate values significantly increased. Infusion of the solutions caused significant changes in Hct value, and Hb, plasma TP, urea, sodium, potassium, chloride and lactate concentrations. Decreases in plasma chloride and lactate concentrations were significantly greater in the BNaCl group than in the LR group.

In conclusion, intravenous infusion of a combination of %0,45 NaCl and %0,65 NaHCO₃ (BNaCl solution) can be more useful than LR solution in the treatment of dehydrated dogs with metabolic acidosis.

Key Words: dog, food and water deprivation, bicarbonated sodium chloride solution, hematology, clinical chemistry